



Date: 24 February 2005
Reference: 05-MDHI-001
Project: NTSB

National Transportation Safety Board (NTSB)
490 L'Enfant Plaza, S.W. Room 5235
Washington, DC 20594

Attention: Deepak Joshi
Lead Aerospace Engineer

Subject: Comments to NTSB FR Docket 04-28148, Reporting Criteria

Enclosures: 1) DISCUSSION PAPER: NTSB Damage Criteria Concerning
Rotor Blade Damage Due to FOD
2) Self address return post card

MD Helicopters, Inc. (MDHI) as a manufacturer and operator of light helicopters submits a discussion paper, Enclosure 1), concerning the subject proposed change to accident incident reporting criteria. Please acknowledge receipt of MDHI's comments via enclosure 2).

In order to meet the 25 February 2005 deadline for submission, an electronic copy has also been submitted.

Sincerely,

A handwritten signature in black ink, appearing to read "R. H. Carlin".

Roger H. Carlin
Manager, Certification Department

RHC/rhc

DATE OF DISTRIBUTION: 24 February 2005
DOCUMENTS DISTRIBUTED: 05-MDHI-001; ORIGINAL; w 2 enclosures

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DISCUSSION PAPER: NTSB DAMAGE CRITERIA CONCERNING ROTOR BLADE DAMAGE DUE TO FOD

Background:

The NTSB proposes to remove the exclusion of **ground** damage to rotor blades from the definition of "substantial damage". The justification for this change includes the comparison of rotor blades to airplane wings as equivalent lifting surfaces.

Discussion:

Helicopters by design operate in close proximity to the ground in order to perform a variety of utility functions. In order to achieve the necessary lift, rotor RPM are very high and the resultant downwash creates turbulent airflow (rotor wash) on the ground. This rotor wash often results in Foreign Object Damage (FOD) to rotor blades that erode or dent the leading edge of the blades. Manufacturers like MDHI protect the blades by adding replaceable leading edge stainless steel, nickel or titanium abrasion strips to protect the soft aluminum / composite blade. Typically this **ground** generated FOD damage is minor and inspection criteria sets forth allowable limits for wear (erosion) and repair. Minor ground generated FOD damage to main and tail rotor blades are not detectable by the pilot while in flight and does not adversely affect the performance of the helicopter.

Impact if ground damage to rotor blades are not excluded:

Minor rotor blade damage caused by ground debris is an everyday occurrence to an operator. Adding this type of damage as a NTSB substantial damage reportable event will create hundreds of reports daily, which will result in needless safety investigations, and reports.

Also, accident statistics will suddenly show a marked increase with no change to the hazard exposure to the public. Insurance rates based on reportable incidents will also increase causing an undue burden on operators who for the most part can not prevent minor **ground** generated FOD damage to rotor blades.

Recommendation:

Considering the above, MDHI recommend that the NTSB retains the existing exclusion of ground damage to rotor blades.